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국제학석사학위논문

Mobile Payments in Global Trade Governance

글로벌 무역 거버넌스에서의 모바일 결제

2017년 8월

서울대학교 국제대학원

국제학과 국제통상 전공

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Mobile Payments in Global Trade Governance

A thesis Presented

By

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to

A dissertation submitted in partial fulfillment
of the requirements for the degree of Master
of International Studies in the subject
of International Commerce

**Graduate School of International Studies
Seoul National University
Seoul, Republic of Korea**

August 2017

글로벌 무역 거버넌스에서의 모바일 결제

**Mobile Payments in
Global Trade Governance**

指導教授 安 德 根

이 論文을 國際學碩士 學位論文으로 提出함

2017年 5月

서울大學敎 國際大學院
國際學科 國際通商 專攻
金 娥 泳

金 娥 泳 의 國際學碩士學位論文을 認准함

2017年 6月

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Abstract

Mobile Payments in Global Trade Governance

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The technological development has enabled us to live in a way our ancestors never imagined. The barter evolved into commerce, creating a banking system. The advent of electronic devices and internet accelerated such development. In 1997, the first mobile payment transaction happened. Since then, the m-commerce market grew fast, and numerous studies were done on mobile payments.

Despite the increasing use of mobile payments and number of research, the research topic has been limited. Scholars focused on the same topics: consumer adoptions and technology aspects. However, as some academic community suggested, studies should be done in diverse perspectives. This includes legal and regulatory analysis. Even few studies done legally focused on domestic regulation. Therefore, this paper will investigate the mobile payments in global trade governance. First, it will have an introduction on

mobile payments and review on previous mobile payment research topics. Then, it will examine whether the current global trade governance is applicable to the mobile payments. The possibly relevant provisions will be assessed. The future of the mobile payment will be predicted.

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Keywords: Mobile Payment(s), E-Commerce, Financial Service(s),
Applicability, Global Trade Governance, GATS

Student Number: 2015-25004

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List of Acronyms

E-Commerce	Electronic Commerce
FTA	Free Trade Agreement
GATS	General Agreement on Trade in Services
KORUS	Korea-US
MFN	Most-Favoured-Nation
MFS	Mobile Financial Services
NT	National Treatment
TPP	Trans-Pacific Partnership
TTIP	Transatlantic Trade and Investment Partnership
WTO	World Trade Organization

I. Introduction

The world was surprised with the unlikely success of financial service in Kenya. Launched by Safaricom in 2007, M-Pesa, the world's most widely used mobile-money network, enabled financial inclusion of Kenyan people. How the diffusion of financial service was possible in a country where unbanked population rate is high? The key to the success was an innovative mobile payment service.

Mobile payment refers to “a payments for goods, services, and bills using a mobile devise using wireless and other communication technologies” (Dahlberg et al., 2008). Since the first mobile payment transaction in 1997, various studies on the mobile payment were conducted. Most literature concentrated to the two issues of the subject: technology and consumer adoption (Dahlberg et al., 2008; Dahlberg et al., 2015; Kshetri, 2001; Liu et al., 2015). Dahlberg et al. emphasized the need to conduct a mobile payment research in comprehensive framework to reflect the reality in their 2008 article, but the mobile payment research trend has not changed since then. The following review article in 2015 by Dahlberg et al. showed the lack of holistic approach examining various factors behind the mobile payment – astray from the reality. In addition, the lack of legal approach in extant mobile payment research enlarges the gap between the real practice and academia. Therefore, this paper examines whether

the current global trade governance can be applicable to mobile payment service – a new phenomenon. It will check which provision would be applicable, if possible, and suggest the possible future for regulation regarding mobile payments.

II. Mobile Payments

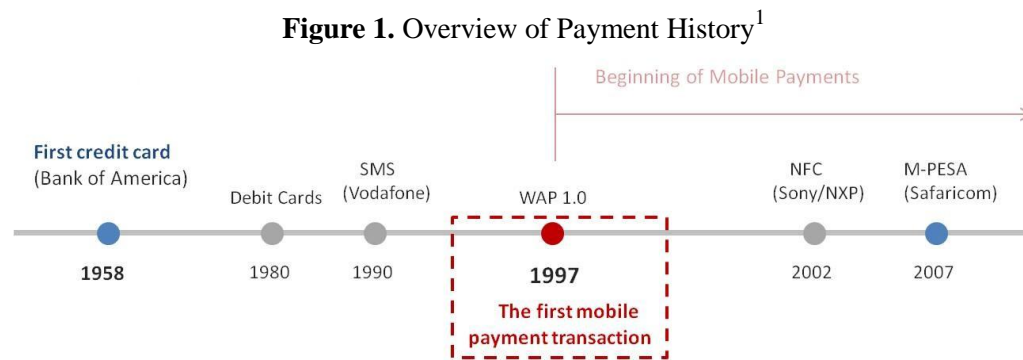
1. Definition

Mobile payment refers to “a payments for goods, services, and bills using a mobile devise using wireless and other communication technologies” (Dahlberg et al., 2008). According to Guo and Bouwman, 2016, the essence of the mobile payment can be narrowed down to the emphasis on the mobile device used as a payment method and the function of payments such as the transfer of monetary value. The definition of the term ‘mobile payment’ can vary depending on which technology it uses and which phase (initiation, authorization or confirmation) it lies. To reduce the possible confusion, this paper deals with the broad definition of the mobile payment including all. In other words, it considers anything as a mobile payment if the payment was done through a mobile device regardless of the phase in which the mobile payment was processed. In addition, money can be transferred to receiver with or without an

intermediary agent (Mallat, 2007).

2. Overview

Before the actual analysis, the brief overlook on the mobile payment market would be useful for the relevant study. The following is overview of payment history after birth of the first credit card by Bank of America in 1958.



Since then, various methods in regards to the mobile payment were invented. Five common methods to make a mobile payment were Short Message Services (SMS), Near Field Communications (NFC), Quick Response (QR), Mobile Applications, Web browsers for mobile phones – e.g. Wireless Application Protocol (WAP) (Khiaonarong, 2014). For this research purpose, the most

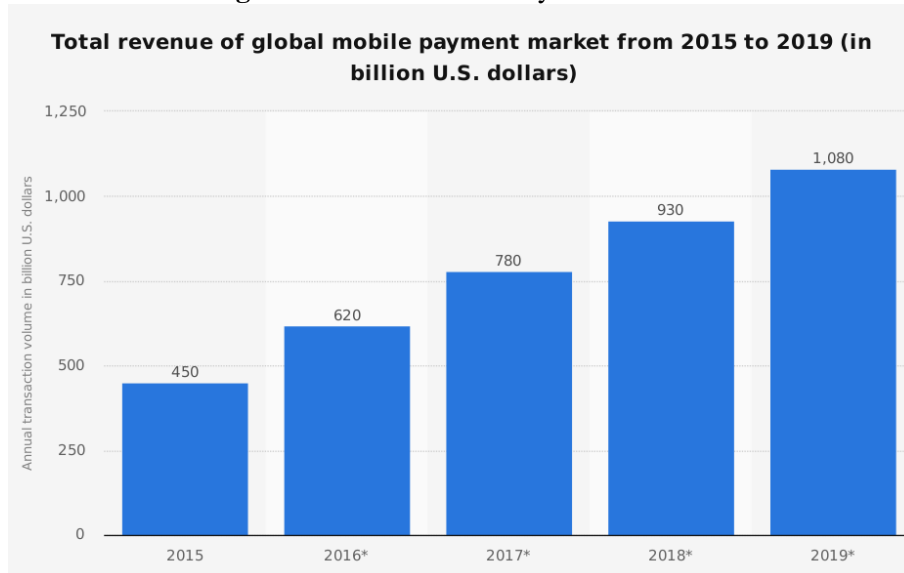
¹ The figure was created by the author of this paper based on the information cited in Lerner, 2013; original source: Jan de Meester “Mobile Wallet,” 2010, Olswang Digital Money, 2010; Dahlberg, 2015; Liu, 2015.

important event from the timeline is the advent of the mobile payment service in 1997. The first mobile payment transaction occurred with the Coca Cola vending machines accepting SMS payments in Finland (Dahlberg, 2015; Lerner, 2013).

3. The Current Market Trend

There are several factors that contributed to the development of the mobile payment service (Deloitte, 2015). Due to globalization, people started to seek more efficient payment systems that could simply work anywhere in the world. Plus, mobile payment market has grown as a result of the achievement of high speed data networks, technology innovation, convenience, and regulatory support (e.g. the USA's domestic and international policy for liberalization of digital trade including mobile payment) as shown by Figure 2.

Figure 2. Global Mobile Payment Market²



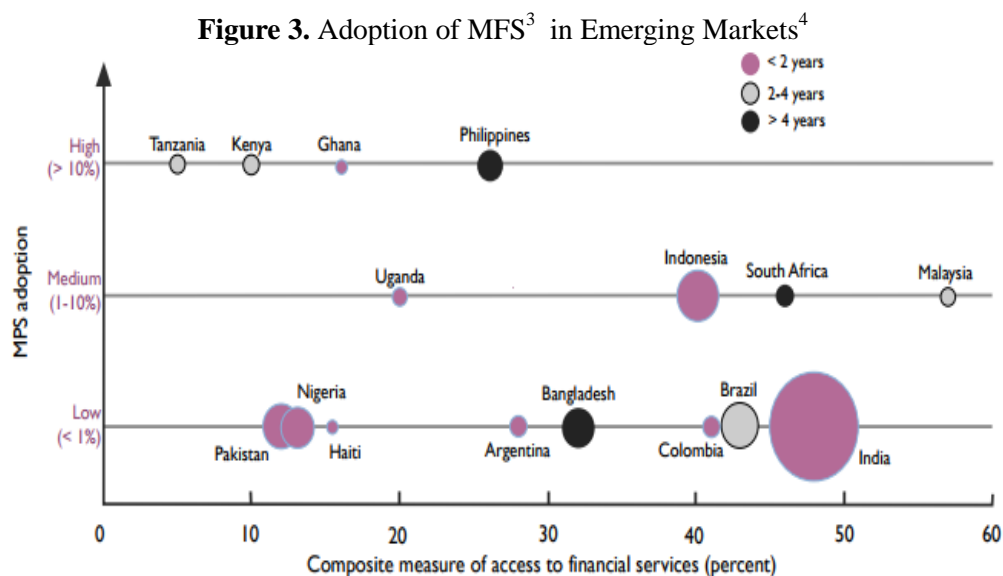
Furthermore, the unique and successful cases of the mobile revolution in emerging or poor markets as shown by M-Pesa (Gupta, 2013) prove the power of the mobile payment service enabling financial inclusion in countries with low penetration of bank accounts despite high adoption of mobile phones – not requiring high level of technology advancement like smart phones (Lerner, 2013; The Economist, 2015).

4. Mobile Revolution in Emerging Markets

High technology is not prerequisite for the mobile payment. The mobile

² Source: TrendForce; NFC+ © Statista 2017 (*Forecast)

payment market is growing rapidly in emerging markets where many people do not own smartphones nor banking accounts. According to Gupta, 2013, circa 86% of 7 billion people in the world have mobile phones, while only about 29% of them have bank accounts. For example, mobile phone owners are 57% of 150 million people with only 13% bank account holders in Bangladesh, and 75% of 1.2 billion people with only about 21% in India.



Kenya, one of high mobile financial services (MFS) adoption countries in emerging markets as shown in Figure 3, achieved financial inclusion through

³ “MFS” stands for mobile financial services.

⁴ (Size of bubble: population size, Colour: market maturity in years) The figure was from Gupta, 2013. Original Source: The Mobile Financial Services Development Report 2011, World Economic Forum, Geneva

innovative services. M-Pesa of Kenya launched by Safaricom in 2007 reached over 15 million users (33% of Kenya's population) and more than 45,000 agents by September 2012 (Gupta, 2013; Lerner, 2013). It was over \$1 billion payments per month that accounted for 31% of Kenya's GDP (Gupta, 2013; Lerner, 2013). Any person with a mobile phone can save or transfer money through M-Pesa agents. As M-Pesa requires a simple technique similar to text-messaging, its mobile payment enabled Kenyan people financial transactions even without presence of banks. Its simple operations requiring cellphones (nor necessarily smartphones) that many Kenyan people have contributed the success of this new type of mobile payment service in emerging countries with weak banking systems due to prevalent security problems like robbery.

5. Mobile Payment Research Review

Most of extant mobile payment research concentrates on the diffusion of this new technology. It examines factors that influence the diffusion or distribution in consumer or company view so that developers or providers of the technology can utilize (Dahlberg et al., 2008; Dahlberg et al., 2015; Kim et al., 2010; Kshetri, 2001; Mallat, 2007; Schierz et al., 2010; Yang et al., 2012). Dahlberg et al. tried to have an overview of the entire mobile payment research literature in

2008 and 2015⁵. The authors discover that scholars' focus on consumer adoption and technology for mobile payment research has not changed since the first article in 2008 covering studies from 1999 to 2006. The investigation by Dahlberg et al., 2015 on articles from 2007 to 2014 demonstrates that studies have revisited previous research concluding security and trust as crucial elements for consumer adoption and use of the mobile payment service. They were often replicate or reinforcement of earlier studies with more robust examination. In brief, the overall dominance of the extant research resides in consumer adoption.

6. Research Question.

This paper investigates uncovered issue of international laws that can influence the mobile payment system – an approach to mobile payments under global trade rule. Research questions are the following: 1. Can the current global trade governance be applicable to mobile payment service? 2. If so, which provision is applicable? 3. Future for mobile payments in global trade regime?

⁵ The composition of authors other than Dahlberg is different in 2008 and 2015 articles.

III. Applicability of the WTO Rule

World Trade Organization (“WTO”) supervises international trade among member countries with legal and institutional framework. The multilateral trade agreements in the WTO provide guidelines to foster international trade.

1. Classification Issue

The mobile payment is an electronically transmitted financial service. Due to its unique feature, it can be seen as a financial service or a form of electronic commerce (“e-commerce”). A subject of electronic transmission, the mobile payment, has a classification issue as digital product does (KSIEL, 2014)⁶.

2. Relevant Provision

The relevant WTO rules are provisions pertaining to financial service and e-commerce as the mobile payment has not been categorized officially in the WTO.

2.1. Financial Service

General Agreement in Trade in Services (“GATS”) of the WTO rules can deal

⁶ “KSIEL” stands for Korea Society of International Economic Law.

with financial service as GATS contains an Annex on Financial Services⁷. However, the Annex on Financial Services cannot cover the mobile payment directly. The first mobile payment transaction occurred in 1997, while GATS took in force in 1995. This means that the provisions of GATS were written based on the payment methods used before 1995 such as credit cards invented in 1958. The timeline of payment history⁸ shows the limitation of GATS as a rule applicable to the mobile payment, a new form of the payment method.

A question on likeness of the mobile payment service with financial service of GATS creates another difficulty on the classification issue. The WTO has a tendency of technology neutrality. The technology neutrality means that “the same regulatory principles should apply regardless of the technology used” (KSIEL, 2014; Kwon, 2016; Wunsch-Vincent, 2005; 2006). In other words, entities with different transfer means should be considered to have the same property.

The Panel applied technology neutrality in findings, emphasizing the property as ‘contents’ in China-Audiovisual Products case⁹ (KSIEL, 2014).

⁷ The main message of the Annex on Financial Services is liberalization (no restriction) with prudential regulatory framework for government financial services.

⁸ For the timeline of the payment history since the birth of the first credit card, refer to Figure 1.

⁹ WT/DS363/R (12 August 2009)

This shows that the tendency of technology neutrality still exists in the WTO. However, there is no agreement at WTO yet in terms of likeness issue, so the technology neutrality is not a principle with enforcement.

2.2. E-Commerce

The existing WTO rules completed in 1995 do not have provisions to regulate e-commerce. Due to disagreements among member countries, the WTO agreed on moratorium on charging duties through “Declaration on Global Electronic Commerce” at the 2nd WTO ministerial meeting on May, 1998. The discussion on how to regulate global e-commerce has been dormant, and no concrete guideline exists in regards to e-commerce (KSIEL, 2014; Kwon, 2016; Wunsch-Vincent, 2005; 2006).

3. Result

The mobile payment invented as a result of technological development is an electronically transmitted financial service. The discourse on financial service and e-commerce is needed to examine the applicability of the WTO rules on the mobile payment with both features. The GATS has an Annex on Financial Services, but scholars are not sure whether the mobile payment is considered same as financial services in GATS written before. The decision on which

provision is applicable to this new form of payment cannot be done without resolving the classification issue. Therefore, the current WTO rule cannot regulate the mobile payment as it is.

IV. Applicability of the FTA Rule

The absence of proceeding on the subjects turns scholars' eyes to Free Trade Agreement ("FTA") rules including bilateral and plurilateral trade agreements. While the negotiations at WTO have not been successful, countries have established more improved trade agreements through bilateral or plurilateral free trade agreements. Covered below are important FTAs with provisions relevant to the mobile payments.

1. Analysis on KORUS¹⁰ FTA and TPP¹¹ Chapter

The US-leading trade agreements such as Korea-US ("KORUS") FTA and Trans-Pacific Partnership ("TPP") advanced from the WTO rules. KORUS FTA – entered into force on March 15, 2012 – is a bilateral trade agreement between Republic of Korea and the United States of America. TPP – signed on

¹⁰ KORUS: Korea-US (FTA)

¹¹ TPP: Trans-Pacific Partnership

February 4, 2016 – is a mega-FTA with twelve member nations including the US. Its creation was led by the US under Obama administration, but its fate is crumbling after Trump’s announcement on TPP withdrawal. Despite its dark future, TPP is an important subject to analyze the standpoint of the US for the mobile payment as it is more likely that the US will push similar views as TPP on other FTAs. For KORUS FTA and TPP, “New Financial Services” chapter was included in Financial Services chapter¹². “New Financial Services” chapter – the same content for both FTAs – implies that member countries should not restrict supply of new financial service from other member countries.

KORUS FTA was almost the first trade agreement that contained Electronic Commerce (E-Commerce) chapter. The E-Commerce chapter of TPP is more developed version than KORUS FTA chapter¹³. TPP chapter has more detailed provisions with more specific guidelines as shown in Table 1. The important features of US-leading trade agreements include the following: “no customs duties on digital goods, MFN (Most-Favoured-Nation) treatment for digital goods, cooperation, consumer protection, authentication and digital signature, open access and free information flow¹⁴” (Bieron and Ahmed, 2012).

¹² See Article 13.6 for KORUS FTA and Article 11.7 for TPP.

¹³ See Chapter 15 for KORUS FTA and Chapter 14 for TPP.

¹⁴ These elements are pointed out by Bieron and Ahmed in their 2012 article after their examination on FTAs until KORUS FTA. Therefore, TPP is not reflected in their analysis, but the features that seemed to

Table 1. Comparison between KORUS FTA and TPP¹⁵

		KORUS	TPP
Financial Services	New Financial Service	✓	✓
E-Commerce	Definitions	✓	✓
	Scope		✓
	General Provision	✓	✓
	Applicability of WTO Rule	✓	·
	Duty-free	✓	✓
	NT	✓	✓
	MFN	✓	✓
	Exemption from nondiscriminatory requirement	✓	✓
	Authentication and Digital Signatures	✓	✓
	Online Consumer Protection	✓	✓
	Paperless Trading	✓	✓
	Personal Information Protection		✓
	Open Access	✓	✓
	Free Information Flow	✓	·
	Free Domestic Electronic Transactions	·	✓
	Server localization	·	X
	Unsolicited Commercial Electronic Messages		X (if need)
	Cooperation	✓	✓ ✓ ✓
	Source Code Transfer	·	X

2. Analysis on TTIP Chapter

TTIP (“Transatlantic Trade and Investment Partnership”) is a trade agreement to be negotiated between the European Union (“EU”) and the United States (“US”). To view the EU’s standpoint, TTIP draft by the EU is to be discussed

be relevant for TPP are mentioned here.

¹⁵ The table was made by the author of this paper based on the chapters of respective trade agreements.
(✓ : Yes, X : Not allowed, · : Not mentioned)

NT stands for “National Treatment”, and MFN stands for “Most-Favoured-Nation.”

in this paper. Although this is not final agreement between two countries, it is a valuable source reflecting the EU side. The comparison between the US-leading trade agreements (KORUS and TPP) and the EU draft of TTIP is the following.

Table 2. Comparison with TTIP (EU)¹⁶

		KORUS	TPP	TTIP (EU)
Financial Services	New Financial Service	✓	✓	✓
E-Commerce	Definitions	✓	✓	✓
	Scope		✓	✓
	General Provision	✓	✓	✓
	Applicability of WTO Rule	✓	·	·
	Duty-free	✓	✓	✓
	NT	✓	✓	·
	MFN	✓	✓	·
	Exemption from nondiscriminatory requirement	✓	✓	·
	Authentication and Digital Signatures	✓	✓	✓
	Online Consumer Protection	✓	✓	·
	Paperless Trading	✓	✓	✓
	Personal Information Protection		✓	·
	Open Access	✓	✓	·
	Free Information Flow	✓	·	·
	Free Domestic Electronic Transactions	·	✓	·
	Server localization	·	X	·
	Unsolicited Commercial Electronic Messages		X (if need)	✓
	Cooperation	✓	✓ ✓ ✓	✓
	Source Code Transfer	·	X	·

¹⁶ The table was made by the author of this paper. (✓ : Yes, X : Not allowed, · : Not mentioned, ✓ : Yes but with difference from US-leading FTA chapters) For TTIP, it is based on the EU's proposal document available in its website (<http://trade.ec.europa.eu/doclib/press/index.cfm?id=1230>), as the final agreement was not made between the EU and US.

3. Results

The analysis on FTAs demonstrates the different standpoint of two powerful countries in the international regime: the EU and the US¹⁷. The difference stands out from the beginning part of chapters.

ELECTRONIC COMMERCE (TPP)

Article 14.2: Scope and General Provisions

“1. The Parties, recognise the economic growth and opportunities provided by electronic commerce and the importance of frameworks that promote consumer confidence in electronic commerce and of **avoiding unnecessary barriers** to its use and development.”

The goal of TPP agreement is the liberalization of trade by getting rid of trade barriers to foster electronic commerce. The keyword of the US side is liberalization.

CHAPTER VI - ELECTRONIC COMMERCE (TTIP-EU)

Article 6-1: Objective and scope

¹⁷ China is an important player of the mobile payment market, but this paper focuses on EU and US whose perspectives have been different for long.

“1. The Parties, recognising that electronic commerce increases trade opportunities in many sectors, agree to promote the development of electronic commerce between them, including by **co-operating** on the issues raised by electronic commerce under the provisions of this Chapter.”

The EU states its willingness of cooperation to increase e-commerce trade but demonstrates cautious approach due to its concern on data and consumer protection. The keyword of the EU side is protection.

3.1. The US Perspective

The main features of the US-leading trade agreements are “no customs duties on digital goods, MFN (Most-Favoured-Nation) treatment for digital goods, cooperation, consumer protection, authentication and digital signature, open access and free information flow” (Bieron and Ahmed, 2012). As pointed in KSIEL, 2014, the US seems to attempt to establish a model law to encourage liberalization of digital or e-commerce trade by establishing trade agreements led by its country. Via proliferation of FTAs reflecting its side, the US might have thought that their chapters could be set as standards in international trade.

As Böhle and Krueger, 2001 states, the US prefers innovation to security.

3.2. The EU Perspective

The main principle of the EU is privacy and data protection. It is reluctant to trade off security over innovation, although it does not ignore the importance of innovation. The EU's view is well represented in the speech by the EU justice commissioner Viviane Reding in Washington on October 2013.

“(...) there are issues that will easily derail [TTIP]. One such issue is data and the protection of personal data. This is an important issue in Europe because data protection is a fundamental right. (...) This is why I warn against bringing data protection to the trade talks. Data protection is not red tape or a tariff. It is a fundamental right and as such it is not negotiable” (cited in Bendrath, 2014).

The EU negotiators do not want to put the data protection on the trade table.

V. Future of Mobile Payments in Global Trade Governance

The future of mobile payments in the current global trade regimes is not bright. The multilateral organization, WTO, has had difficulty to reach an agreement in negotiations among member countries. The bilateral and plurilateral trade

agreements such as FTAs and mega-FTAs have prospered to circumvent the dormant multilateral trading systems. However, the discrepancy between two major countries adds more complexity to the global trade governance: the US supporting the liberalization of e-commerce trade vs. the EU calling for data protection.

Obama administration tried to create a model law for e-commerce trade via the US-leading mega-FTA, TPP. The goal of the US might have been spreading the model law throughout the world after the success of TPP negotiations (KSIEL, 2014). However, Trump's approach against TPP shows that it is less likely that TPP will be finalized. Despite the gloomy prospect on TPP, it is more likely that the US will reflect chapters from TPP on other trade negotiations led by it. As TPP or other US-leading trade agreements lack the EU perspective, if TTIP, the negotiation involving the US and EU is successfully finalized, the future of the mobile payment in the global trade governance might become clearer.

We need to keep an eye on how TTIP will be finalized. On TTIP negotiations, the US will probably try to loosen the EU's data protection rules – pushing for “interoperability” between the US and EU regulation on data

protection. However, the EU will insist the “adequacy” of data protection situation¹⁸ (Bendrath, 2014). However, it is likely that the final chapters will be reflection of both sides as usual trade negotiations are win-win games. It might start from limited liberalization of e-commerce, and then slowly open up more in the future. The EU would have to give up some of its strict standards related to data protection to foster cross-border e-commerce, while the US would need to ensure the security issue.

The success of TTIP (or any trade agreement between the US and the EU) should eventually followed by multilateral trade agreements like the WTO for more efficient and effective world trade governance as mentioned in KSIEL, 2014 and Kwon, 2016. When the mega-FTAs achieve the harmonization of the two perspectives, the multilateral negotiations in the WTO would be more easily agreed.

¹⁸ The “interoperability” and “adequacy” concepts are more understandable with the Article 25 of the Data Protection Directive of 1995: “*the transfer to a third country of personal data which are undergoing processing or are intended for processing after transfer may take place only if (...) the third country in question ensures an **adequate level of protection**.*” (cited in Bendrath, 2014).

VI. Conclusion

The world has gone through multiple revolutions. The world trade rules were organized, and international trades were facilitated through the establishment of the WTO in 1995. The financial field also has faced various changes. Since the birth of the first credit card in 1958 providing more convenient alternative to the payment, the financial transactions have been prospered. Now is another period of challenge. The advent of the mobile payment never imagined in 1995 is facing the upcoming turbulence of how to regulate and monitor this in international arena.

The current world trading rules cannot be applicable to this new technological innovation directly. The classification issue of the subject and two different perspectives on data protection would be major challenges to resolve. The advancement of this topic may be more achievable via bilateral or plurilateral trade negotiations first. The discrepancy between the reality and law exists in any international law. We need to facilitate the negotiations to finalize some unresolved issues so that international rules can properly monitor the new type of commerce. The rapid growth of the mobile payment warns us that the time is ticking. It is often said that it is never too late to do something. However, it would be too late when a problem starts to appear internationally.

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국문초록

글로벌 무역 거버넌스에서의 모바일 결제

김 아 영

기술 발전은 우리들의 삶을 예전에는 상상할 수 없는 방향으로 이끌었다. 간단한 형태의 물물교환은 거래의 개념으로 교체되었다. 특히, 전자기기와 인터넷의 발현은 발전속도를 더 가속화시켰다. 1997년에 최초의 모바일 결제 거래가 이루어졌다. 그 이후 모바일 거래는 빠르게 성장했고, 모바일 결제에 관한 많은 연구도 있어왔다. 하지만, 활발한 거래량에도 불구하고, 모바일 결제 관련 연구의 주제는 한정적이었다. 학자들은 소비자 사용과 기술 측면에만 중점을 두었다. 그러나, 일부 학자들이 주장하듯이, 더 나은 결과를 위해 다양한 측면에서의 연구가 필요하다. 법적 관점처럼 말이다. 법적인 내용을 다룬 소수의 연구조차도 사실 국내법에만 치중하고, 전체적으로 아울러 영향을 줄 수 있는 국제 무역법에서의 접근방법은 없었다. 따라서, 이 논문은 새로운 형태의 결제 시스템인 모바일 결제가 현존하는 글로벌

무역 거버넌스에서 어떻게 다뤄질 수 있는지, 관련 조항들을 분석해 볼 것이다. 또한, 모바일 결제에 대한 현재의 국제무역법의 한계를 극복하기 위해 미래에 어떤 방향으로 나갈 것인지 예측, 제안해 볼 것이다.